

# TRANSCEIVER TECHNICAL SPECIFICATIONS

<b>Standards</b>	IEEE 802.3
<b>Case dimensions</b>	2.8" x 1.75" x 0.75" (71mm x 43mm x 18mm)
<b>Maximum in series:</b>	Two (2)
<b>Environment</b>	Temperature: 0-40°C (32° to 104° F) Humidity: 10-90%, non condensing Altitude: 0-10,000 feet
<b>Warranty</b>	Five years

## Setting the Transceiver Physical Address

Additive switch settings allow a physical address to be set by selecting (or not selecting) among the following:

<b>Switch 1 DOWN</b>	2 <sup>0</sup>	1
<b>Switch 2 DOWN</b>	2 <sup>1</sup>	2
<b>Switch 3 DOWN</b>	2 <sup>2</sup>	4
<b>Switch 4 DOWN</b>	2 <sup>3</sup>	8
<b>Switch 5 DOWN</b>	2 <sup>4</sup>	16



In the switch setting shown above, the transceiver physical address is set to **1** (1+0+0+0+0).

NOTE: 1=ON, 0=OFF

## Compliance Information

UL Listed

C-UL Listed (Canada)

CISPR/EN55022 Class A

## FCC Regulations

This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at the user's own expense.

## Canadian Regulations

This digital apparatus does not exceed the Class A limits for radio noise for digital apparatus set out on the radio interference regulations of the Canadian Department of Communications.

## European Regulations

### Warning

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

## Copyright Restrictions

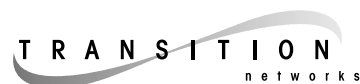
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33097.B



Minneapolis, MN 55344 USA

# Fast Ethernet™ Copper Transceiver

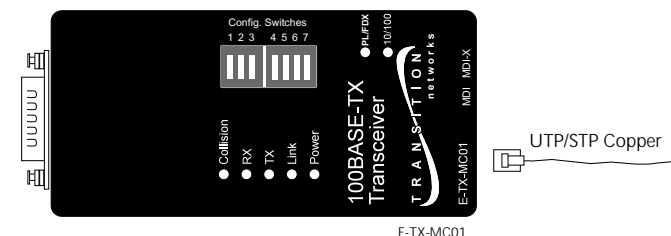
## E-TX-MC01

## USER'S GUIDE

TRANSITION Networks copper transceivers (E-TX-MC01) connect Fast Ethernet™ hubs and/or terminal devices, through a Media Independent Interface (MII) connector, to 10BASE-T copper cable or to 100BASE-TX copper cable.

## E-TX-MC01

Provides an MII connector and an RJ-45 10BASE-T/100BASE-TX connector to unshielded twisted-pair or shielded twisted-pair copper cable.



A set of switches on the front of the transceiver can be used to set a unique physical address for each transceiver. Transceivers can be configured to autonegotiate or to force either 10Mb/sec half-duplex mode or 100Mb/sec half-duplex mode.

An MDI/MDI-X switch on the side of the transceiver can be used to set the copper cable configuration to *straight-through* or to *crossover*.

Status LEDs provide the following information:

### PL/FDX

Illuminated green LED indicates the transceiver is operating in full-duplex mode.

### 10/100

Illuminated green LED indicates the transceiver is operating at 100Mb/s.

### Collision:

Illuminated green LED indicates signal collisions on the Ethernet cable.

### RX

Flashing or illuminated green LED indicates packet(s) are being received.

### TX

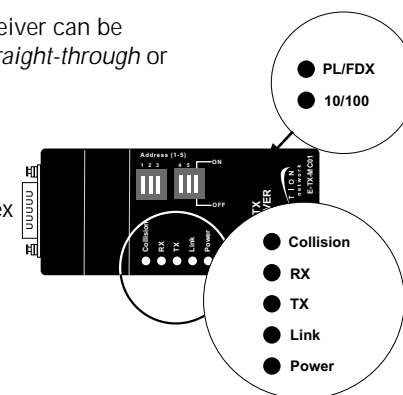
Flashing or illuminated green LED indicates packet(s) are being transmitted.

### Link

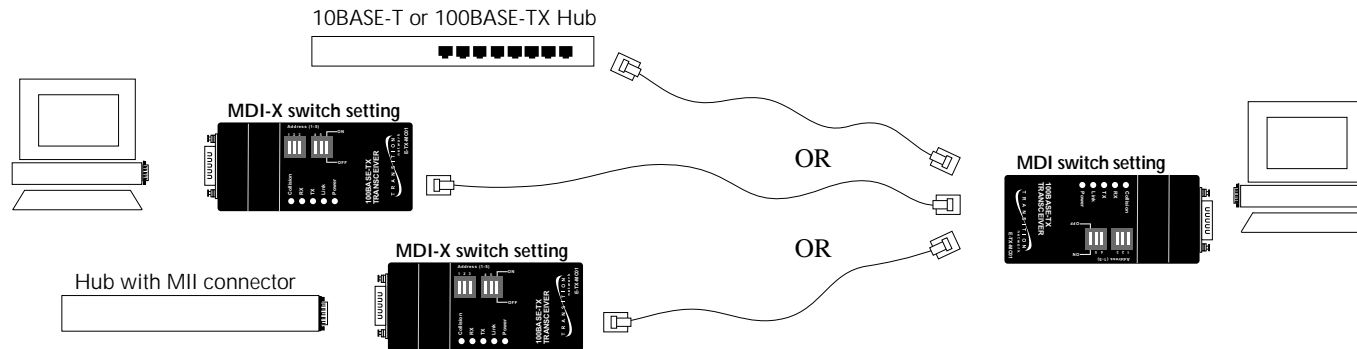
Illuminated green LED indicates the unit is receiving link pulses from a compliant device.

### Power:

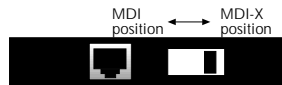
Illuminated green LED indicates connection to external power.



# Straight Through/Crossover Cable Requirements and Pin Specifications



NOTE: Straight-through/crossover requirements are satisfied using the MDI/MDI-X switch with straight-through cable. Cable connections between a hub and the media converter require the MDI/MDI-X switch to be set to MDI. Cable connections between the media converter and a terminal, transceiver or NIC require the switch to be set to MDI-X



Using small flatblade screwdriver or similar tool and referring to label at front of media converter, set MDI/MDI-X switch position for site installation.

## Installation Notes

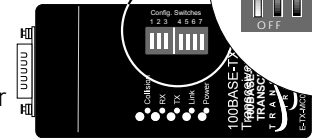
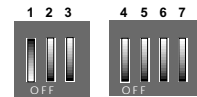
- Be certain that 10BASE-T/100BASE-TX MDI/MDI-X switch is set correctly for site installation. .
- Set Switches according to site installation:  
**Switches 1-5:** The transceiver is shipped with rocker switch 1 set to the default ON=UP and with switches 2-5 set to the default OFF=DOWN, setting the transceiver physical address to a value of "1".

In all known cases, the default rocker switch 1-5 setting is the correct physical address for network installations. ONLY IF THIS ADDRESS SHOULD FAIL, refer to the chart on the back page for direction for setting the binary transceiver physical address to a site-specific value from 1 to 31.

**Switch 6-7:** The transceiver is shipped with rocker switches 6 and 7 set to the default OFF=DOWN, which sets the data-transfer mode to "auto-negotiation" ..

- Set switch 6 to ON=UP when the transceiver is connected to a 100BASE-TX half-duplex device.
- Set switch 7 to ON=UP when the transceiver is connected to a 10BASE-T half-duplex device.

Address (1-5)



## Troubleshooting the Transceiver

If the E-TX-MC01 transceiver fails, determine the answers to the following questions:

1. Is the power LED on the transceiver illuminated?

NO

- Verify that the transceiver is installed properly in the MII port and that the device is powered ON?
- Contact Technical Support at (800) 260-1312 or at (800) LAN-WANS.

YES

- Proceed to step 2.

2. Is the Link LED illuminated?

NO

- Check the copper cables for proper connection. (If possible, try a different cable.)
- Try setting a non-zero physical address.
- Contact Technical Support at (800) 260-1312 or at (800) LAN-WANS.

YES

- Proceed to step 3.

3. Is the copper cable connected properly?

NO

- Verify that straight-through copper cable is installed and that MDI-MDI-X switch is set correctly.
- Contact Technical Support at (800) 260-1312 or at (800) LAN-WANS.

YES

## CABLE SPECIFICATIONS

The physical characteristics of the media cable must meet or exceed IEEE 802.3u 100BASE-TX specifications.

### 100BASE-TX CABLE SPECIFICATIONS

Category 5 wire or better is required. Either shielded twisted pair (STP) or unshielded twisted pair (UTP) can be used. Use a straight-through cable configuration (see back page).

#### Category 5:

Gauge	24 to 22 AWG
Attenuation	20 dB/1000' @ 10 MHz
Impedance	100 $\Omega$ $\pm$ 10% @ 10 MHz
Maximum Cable Distance:	100 meters (330 feet)Maximum